

CLAIMS

1. A method of elongating optical fiber base material comprising: heating and softening base material ingot in such as an electric furnace; drawing said ingot with a pair of pinch rollers; and elongating the ingot to make base material rod having a smaller diameter than said ingot, wherein either a roller groove having a curvature radius which is larger than the outer diameter of said base material rod or a V-shaped roller groove having the cross section consisting of straight lines is formed on each surface of said pinch rollers made of metal, and wherein the facing roller grooves respectively formed on the surfaces of a pair of said pinch rollers nip and draw said base material rod.
2. A method of elongating optical fiber base material comprising: heating and softening base material ingot in such as an electric furnace; drawing said ingot with a pair of pinch rollers; and elongating the ingot to make base material rod having a smaller diameter than said ingot, wherein using an untapered shaft having a reference edge face which is parallel to the elongating direction, said pinch rollers are pushed against the reference edge face to be fitted and fixed to the untapered shaft, and wherein the position of the groove center of facing roller grooves respectively formed on the surfaces of said pair of pinch rollers is adjusted with a positioning adjustment apparatus which supports said pinch rollers.
3. The method of elongating optical fiber base material according to claim 1 or 2, wherein a shorter rod having almost the same outer diameter as the desired base material rod is nipped and held by a pair of pinch rollers, and wherein a positioning adjustment apparatus supporting said pinch rollers is adjusted the position of the apparatus using a vertical line of laser beam or a plumb bob, which is parallel to the traveling direction of the base material ingot, runs through the middle of the heater such as an electric furnace and the center point of the shorter rod, to determine the positions of said pinch rollers.
4. The method of elongating optical fiber base material according to one of claims 1-3, wherein a jig comprising an upper board and a cylindrical part is mounted on a pair of pinch rollers, and a positioning adjustment apparatus supporting said pinch rollers is adjusted the position of the apparatus using a vertical line of laser beam or a plumb bob, which is parallel to the traveling direction of the base material ingot, runs through the middle of the heater such as an electric furnace and the center point of the shorter rod, to

determine the positions of said pinch rollers.

5. An apparatus for elongating optical fiber base material, which heats and softens base material ingot in such as an electric furnace; draws with a pair of pinch roller; and elongates to make base material rod having a smaller diameter than the ingot, comprising said pinch rollers which are made of metal, and respectively have either a roller groove having a curvature radius which is larger than the outer diameter of said base material rod or a V-shaped roller groove having the cross section consisting of straight lines on the surfaces of said pinch rollers.

6. An apparatus for elongating optical fiber base material by heating and softening base material ingot in such as an electric furnace; drawing with a pair of pinch roller; and elongating to make base material rod having a smaller diameter than the ingot, wherein: an untapered shaft which holds said pinch rollers in the way said pinch rollers are rotatable, and has a reference edge face being parallel to the elongating direction and used for positioning said pinch rollers; and a means such as a positioning table adjusting the position of said untapered shaft.

7. The apparatus for elongating optical fiber base material according to claim 5 or 6, wherein the surfaces of said pinch rollers are winded and fixed woven fabric made of heat-resistant material to prevent said pinch rollers from directly contacting to base material rod made of metal.